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Part 4



INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VIII - User Interface Subsystem
Part 4 - User Interface (UI) Services Unit Test Plan

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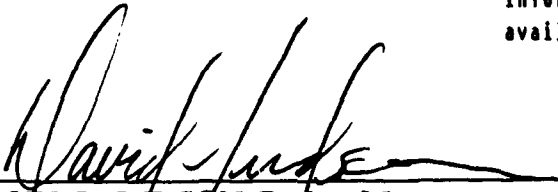


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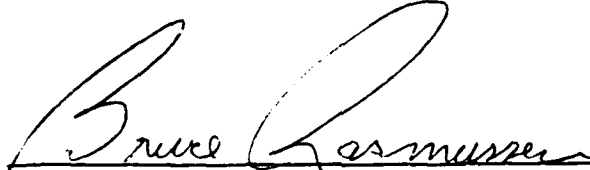
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SECTION 1

GENERAL

1.1 Purpose

This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the User Interface Services known in this document as the UIS. The UIS is one configuration item of the Integrated Information Support System (IISS) User Interface (UI).

1.2 Project References

- [1] General Electric Co., System Design Specification, 7 February 1983.
- [2] Systran, ICAM Documentation Standards, IDS150120000C, 15 September 1983.
- [3] Structural Dynamics Research Corporation, IISS Terminal Operator Guide, OM 620344000, 31 May 1988.
- [4] Structural Dynamics Research Corporation, User Interface Services Development Specification, DS 620344000, 31 May 1988.
- [5] Structural Dynamics Research Corporation, Forms Language Compiler Unit Test Plan, UTP62034401, 31 May 1988.
- [6] Structural Dynamics Research Corporation, Forms Driven Form Editor Unit Test Plan, UTP620344402, 31 May 1988.
- [7] Structural Dynamics Research Corporation, Report Writer Unit Test Plan, UTP620344501, 31 May 1988.
- [8] Structural Dynamics Research Corporation, Rapid Application Generator Unit Test Plan, UTP620344502, 31 May 1988.
- [9] Structural Dynamics Research Corporation, Text Editor Unit Test Plan, UTP620344600, 31 May 1988.
- [10] Structural Dynamics Research Corporation, Application Interface Unit Test Plan, UTP620344700, 31 May 1988.
- [11] Structural Dynamics Research Corporation, Form Processor Unit Test Plan, UTP620344200, 31 May 1988.
- [12] Structural Dynamics Research Corporation, Virtual Terminal Interface Unit Test Plan, UTP620344300, 31 May 1988.

1.3 Terms and Abbreviations

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Forms Driven Form Editor: (FD FE), subset of the FE which consists of a forms driven application used to create Form Definition files interactively.

Form Editor: (FE), subset of the IISS User Interface that is used to create definitions of forms. The FE consists of the Forms Driven Form Editor and the Forms Language Compiler.

Forms Language Compiler: (FLAN), subset of the FE that consists of a batch process that accepts a series of forms definition language statements and produces form definition files as output.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a computing environment used to investigate, demonstrate, test the concepts and produce application for information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Presentation Schema: (PS), may be equivalent to a form. It is the view presented to the user of the application.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

User Interface Development System: (UIDS), collection of IISS User Interface subsystems that are used by applications programmers as they develop IISS applications. The UIDS includes the Form Editor and the Application Generator.

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface Services: (UIS), subset of the IISS User Interface that consists of a package of routines that aid users in controlling their environment. It includes message management, change password, and application definition services.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

Window Manager: a facility which allows the following to be manipulated: size and location of windows, the device on which an application is running, the position of a form within a window. It is part of the Form Processor.

SECTION 2

DEVELOPMENT ACTIVITY

2.1 Statement of Pretest Activity

During system development, the computer programs were tested progressively. Functionality was incrementally tested and as bugs were discovered by this testing, the software was corrected.

Each application of the system was individually tested: System Generation, Change Password, Function Help, and Message Management. This testing was conducted by the individual program developer in a manual mode. The developer would manually enter data onto the screen and observe the results. Any errors were noted by the developer and corrections to the program were then made after a testing session.

2.2 Pretest Activity Results

Each testing of the forms used in the UIM/UIS system discovered a few minor bugs which were then corrected and retesting proved successful. Testing included exceptional conditions and error conditions for data entered on the forms. The overall test results during development showed no major programming errors. Only minor bugs were discovered and corrected.

SECTION 3
SYSTEM DESCRIPTION

3.1 System Description

The User Interface Services are a collection of forms-based applications supported by the User Interface. Each application is an individual IISS function which may be invoked from the IISS Function Screen. The User Interface Services are:

- o Access Control
- o Function Screen Help
- o Change Password
- o System Generation
- o Message Management

Figure 3-1 is the interface block diagram that illustrates how the User Interface Services connect with the other elements of the User Interface.

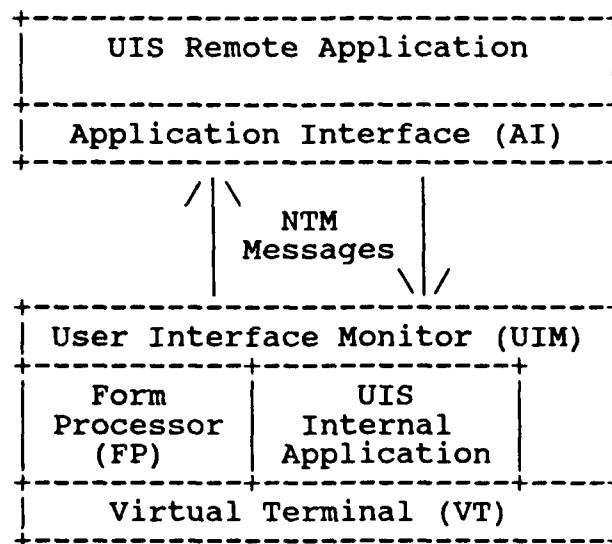


Figure 3-1 Interface Block Diagram

3.2 Testing Schedule

The test of the UIS consists of individually testing each application of the UIS system. The screens in Section 5.3 illustrate the inputs and outputs used for testing the UIS. The execution of the UIS applications is dependent on the Form Processor, Virtual Terminal, and Application Interface components of the User Interface which are dependent on the NTM subsystem. Therefore, the UIS should be tested after the Form Processor, Virtual Terminal, and Application Interface components have been tested.

3.3 First Location Testing

These tests of the UIS require the following:

Equipment: Air Force VAX and IBM, terminals supported by the Virtual Terminal as listed in the UI Terminal Operator's Guide.

Support Software: The Integrated Information Support System.

Personnel: One integrator familiar with the IISS.

Training: The UI Terminal Operator's Guide which describes the UIS has been provided with the current release.

Deliverables: The User Interface Services Subsystem of the IISS UI/VTI.

Test Materials: On the VAX, this unit test has a script file provided to automatically perform the test as outlined in Section 5.3. Also, a saved output file produced by running the script file is provided.

Security Considerations: None.

3.4 Subsequent Location Testing

The requirements as listed above need to be met; however, on the VAX, in subsequent testing it may be advantageous to run the script file of the outlined tests and to save the output of the test for future comparisons.

SECTION 4

SPECIFICATIONS AND EVALUATIONS

4.1 Test Specification

The following requirements are demonstrated by the outlined tests:

- o Access Control
- o Function Screen Help
- o Change Password
- o System Generation
- o Message Management

The steps outlined in Section 5.3 show the direct correspondence between the test and the functional requirements as listed in this section. These functional tests map directly to the functional requirements section of the UIS Development Specification.

4.2 Testing Methods and Constraints

The tests as outlined in Section 5.3 must be followed. The required input is stated for each test. This testing tests the normal mode of operation of these functions and does not completely exercise all the error combinations that a user of the UIS might create by faulty entry of form field information. These tests have been done, however, through the normal testing done by the developer of these functions. No data recording is required. It is suggested that on further running of this test, scripting of the test may be done and the output from running the script be saved for future testing. No additional constraints are placed on this unit test besides those listed in Section 3.3 of this unit test plan.

4.3 Test Progression

The progression of testing of the UIS is fully outlined in Section 5 of this unit test plan. This progression should be followed exactly to insure the successful testing of this IISS configuration item.

4.4 Test Evaluation

As outlined in Section 5, each test of UIS functionality provides an input screen with the required data entry specified and the resulting screen output for a successful test.

The User Interface Database exported at the end of the test should be compared with the one installed at the beginning of the test. This verifies that the test correctly returned the database to its initial state and that the export utility worked correctly. (The functioning of the import utility is verified by the tests producing the correct results.) On the VAX, this is done by using DIFFILE.COM on the UIDUMP.DAT files.

4.4.1 Additional Test Evaluation for VAX

To speed up this testing, scripting has been used. The resulting output of these tests is saved in a file UIUTP.SAV. The corresponding test script file is UIUTP.SCP. Both these files are under IISS Configuration Management.

To use scripting, these files should be copied over to the test directory. The .SAV file may be used for future comparison against the UITST.SAV file generated when running this unit test using script. To compare the results use the command file DIFFFILE.COM which was released as part of the acceptance testing done on the Air Force VAX and is under Configuration Management. For a successful test, the only differences between the two files should be the date/time stamps on the IISS Function Screen.

SECTION 5

TEST PROCEDURES

5.1 Test Description

A general description of this unit test was provided in Section 3.

5.2 Test Control

In Section 5.3 the required input data is documented for each function being tested and the resulting successful output is also documented. The order of the testing is also completely documented. The test control information is completely described in Section 5.3. To automatically perform this unit test, one just enters the file name containing the unit test plan script and the screens as presented in Section 5.3 are returned to the tester with no required input from the tester.

5.3 Test Procedures

The NTM must be up and running and the UI logical names IISSFLIB and IISSMLIB must be set properly. IISSFLIB defines to the location containing form definitions (FD files). IISSMLIB defines to the location containing error messages (MSG files). The NTM tables must contain the entries for SDUIMSVAXZ, SDSYSGENZZ, and SDMMZZZZZZ. The supplied User Interface Database (UIDB) must be installed as described in the following steps. All the test steps are outlined in this section.

5.3.1 Test Procedures On VAX

To run the unit test plan in the VAX/VMS environment as outlined in this section, one must be logged on to an IISS account. Prior to starting up the NTM, the test UIDB must be installed. If an existing UIDB is to be preserved, it must be exported first. This is accomplished by the following steps:

```
$ SET DEFAULT <to directory containing NTM environment>
$ RUN UDBEXP
$ RENAME UIDUMP.DAT <some unique filename>
```

The following steps install the test UIDB:

```
$ SET DEFAULT <to directory containing NTM environment>
$ COPY <filename of released UIDUMP.DAT> []
$ RUN UDBIMP
```

At this point, the NTM should be started up following the normal procedures. You may then start the test using scripting as follows:

```
$ SET DEFAULT <to directory containing NTM environment>
$ VT100 -RUIUTP.SCP -SUITST.SAV
```

These commands start up the VT100 device driver with a source script as input and specify a save file for the results. If the User Interface system has been installed at your site with a different device driver, then this step is amended as appropriate. The following figures show not only the form input and output but also the sequencing of the test. To execute the test manually enter only "VT100" at the second "\$".

Following the tests, the UIDB should be exported to verify the results of the tests and the functioning of the export utility. This is done as follows:

```
$ RUN UDBEXP
$ @DIFFILE UIDUMP.DAT <filename of released UIDUMP.DAT>
$ @DIFFILE UITST.SAV UIUTP.SAV
```

The first DIFFILE should produce no differences, the second one may produce differences, but only in times or dates.

Finally, if a UIDB was preserved, it should be restored as follows:

```
$ RENAME <unique filename from above> UIDUMP.DAT
$ RUN UDBIMP
```

5.3.2 Test Procedures On IBM

This test assumes that the BLDVSM2 JCL file has been executed so that the UI Database is initialized using the UDBIMP utility. The DDNAME UIDUMP in this JCL is allocated to the dataset IISSCM.R23.UI.DUMP which contains the import database information supplied by SDRC.

To bring up the NTM, you must submit the JCL, BATIISS, as a batch job. Once the IISS Login Screen is presented, testing on the IBM proceeds as documented in subsection 5.3.3. Upon completing the tests as instructed after Figure 5-65, you can test the UDBEXP utility. You must free UIDUMP and reallocate it to the dataset you want to export the UI database. You then can compare the exported database with the IISSCM.R23.UI.DUMP database. There should be no differences.

5.3.3 Access Control

After the start up of the Device Driver, which activates the UI, the following form appears on your screen:

User ID:	_____
Password:	_____
Role:	_____
MSG: <u>0</u>	application

Figure 5-1. IISS Logon Screen.

Entering this form with an incorrect password and role verifies that an error message is issued and the user is not permitted access to IISS. (Note that the password is not actually displayed on the screen.)

User ID:	<u>SYSMGR</u>
Password:	<u>X</u>
Role:	<u>X</u>
MSG: <u>1</u> Invalid username / password	application

Figure 5-2. Incorrect Password and Role.

Correcting the password verifies that an error message is issued for the incorrect role and access is still not permitted.

User ID:	<u>SYSMGR</u>
Password:	<u>SYSMGR</u>
Role:	<u>X</u>

MSG: 1 Role not valid for username - Not changed applcation

Figure 5-3. Invalid Role.

Correcting the role allows access.

User ID:	<u>SYSMGR</u>
Password:	<u>SYSMGR</u>
Role:	<u>sysmgr</u>

MSG: 1 Role not valid for username - Not changed applcation

Figure 5-4. Correct Logon Screen Prior to <ENTER>.

Once the Logon Screen has been successfully entered, the
IISS Function Screen appears.

I I S S T E S T B E D V E R S I O N 2.3			
Date:12/21/86	Time: 9:15:21	User ID:SYSMGR	Role: <u>SYSMGR</u>
Function:_____	Device Type:_____	Device Name:_____	
MSG: <u> 0 </u>		application	

Figure 5-5 IISS Function Screen

Entering a function which is not authorized for the current role verifies that an error message is issued and, for security reasons, the user is not given any indication as to whether the entered function does not exist or is just not authorized for the current role.

I I S S T E S T B E D V E R S I O N 2.3			
Date:12/21/86	Time: 9:15:36	User ID:SYSMGR	Role: <u>SYSMGR</u>
Function:X_____	Device Type:_____	Device Name:_____	
MSG: <u> 1 </u> Function not valid for role		application	

Figure 5-6. Invalid Function.

5.3.4 Function Screen Help

Pressing the <HELP> key or entering the function "HELP" lists the functions available for the current role.

```
+-----+
| I I S S   T E S T   B E D   V E R S I O N   2.3 |
+-----+
| Date:12/21/86   Time: 9:15:29   User ID:SYSMGR   Role:SYSMGR |
| Function:_____ Device Type:_____ Device Name:_____ |
| SYSGEN          - User Interface System Generation Utility |
| APPGENER        - Application Generator |
| ARTEST          - Form Processor Test Application |
| EXIT            - Exit from IISS |
| FDFE            - Form Editor |
| FLAN            - Forms Language Compiler |
| HELP            - Function Screen Help |
| MM              - Message Management |
| PASSWORD        - Change Password Utility |
| TE              - Text Editor |
| MSG:  _1 Use scrolling and paging keys | application |
+-----+
```

Figure 5-7 Function Screen Help Key

```
+-----+
| I I S S   T E S T   B E D   V E R S I O N   2.3 |
+-----+
| Date:12/21/86   Time: 9:15:29   User ID:SYSMGR   Role:SYSMGR |
| Function:HELP_____ Device Type:_____ Device Name:_____ |
| SYSGEN          - User Interface System Generation Utility |
| APPGENER        - Application Generator |
| ARTEST          - Form Processor Test Application |
| EXIT            - Exit from IISS |
| FDFE            - Form Editor |
| FLAN            - Forms Language Compiler |
| HELP            - Function Screen Help |
| MM              - Message Management |
| PASSWORD        - Change Password Utility |
| TE              - Text Editor |
| MSG:  _1 Use scrolling and paging keys | application |
+-----+
```

Figure 5-8 Function Screen Help Function

5.3.5 System Generation

Entering the function "SYSGEN" invokes the User Interface System Generation Utility.

```
+-----+
|               I I S S   T E S T   B E D   V E R S I O N   2.3               |
+-----+
| Date:12/21/86  Time: 9:15:36  User ID:SYSMGR  Role:SYSMGR                    |
| Function: sysgen    Device Type:_____  Device Name:_____              |
|                                                                                   |
|                                                                                   |
|                                                                                   |
|                                                                                   |
|                                                                                   |
|                                                                                   |
|                                                                                   |
|                                                                                   |
|                                                                                   |
| MSG: 0                                                                                   |
|                                                                                   |
+-----+
|                                                                                   |
+-----+
```

Figure 5-9 Invoking SYSGEN

When the SYSGEN utility is invoked, the following initial screen is displayed.

```
+-----+
|               User Interface System Generation Utility               |
|               -----               |
| Display Selection Keys                               Data Manipulation Keys |
| -----                               ----- |
| <PF5>  - Display User Information  <ENTER> - Insert / Update |
| <PF6>  - Display Role Information  <PF12> - Delete |
| <PF7>  - Display Function Information |
| <QUIT> - Return to this screen / Exit |
|                                         |
|                                         |
|                                         |
|                                         |
|                                         |
|                                         |
|                                         |
|                                         |
|                                         |
| MSG: 0                                         |
|                                         |
+-----+
|                                         |
+-----+
```

Figure 5-10 SYSGEN Initial Screen

Pressing <PF5> displays a list of all authorized users.

```
+-----+
| Users (use scroll/page keys to see more) |
|                                           |
|        - |
| MORENC - Test User |
| SYSMGR - System Manager |
|                                           |
|                                           |
|                                           |
| MSG:   0   | application |
+-----+
```

Figure 5-11 List of Users

A new user is authorized by entering the User ID and pressing <PF5>.

```
+-----+
| Users (use scroll/page keys to see more) |
|                                           |
| testuser - |
| MORENC - Test User |
| SYSMGR - System Manager |
|                                           |
|                                           |
|                                           |
| MSG:   0   | application |
+-----+
```

Figure 5-12 Authorizing a New User

This displays the user definition screen.

User ID	User Name	Password Verification
TESTUSER		
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
MSG: <u>0</u>		application

Figure 5-13 User Definition Screen

The new user is defined by filling in the screen and pressing <ENTER>. Note that the password information is not displayed on the screen.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
MSG: <u>1</u> User inserted		application

Figure 5-14 Filled-in User Definition Screen

Roles are authorized by filling in the appropriate field and pressing <ENTER>.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
<u>testrole1</u>		
MSG: <u>1</u> User inserted		applcation

Figure 5-15 Authorizing Roles (1 of 4)

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
<u>testrole2</u>		
TESTROLE1 (Inserted)		
MSG: <u>0</u>		applcation

Figure 5-16 Authorizing Roles (2 of 4)

User ID	User Name	Password Verification
TESTUSER	<u>unit test plan test user</u>	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
<u>testrole3</u>		
TESTROLE1	(Inserted)	
TESTROLE2	(Inserted)	
MSG: <u>0</u>		applcation

Figure 5-17 Authorizing Roles (3 of 4)

User ID	User Name	Password Verification
TESTUSER	<u>unit test plan test user</u>	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
<u>TESTROLE1</u>		
TESTROLE2	(Inserted)	
TESTROLE3	(Inserted)	
MSG: <u>0</u>		applcation

Figure 5-18 Authorizing Roles (4 of 4)

Moving the cursor out of the authorized roles area and pressing <PF7> displays a list of all functions.

```
+-----+
Functions (use scroll/page keys to see more)

APPGENER - Application Generator
ARTEST   - Form Processor Test Application
EXIT     - Exit from IISS
FDFE     - Form Editor
FLAN     - Forms Language Compiler
HELP     - Function Screen Help
MM        - Message Management
PASSWORD - Change Password Utility
SYSGEN   - User Interface System Generation Utility
TE        - Text Editor

MSG:  0                                     applcation
+-----+
```

Figure 5-19 List of Functions

A new function is defined by entering its name and pressing
<PF7>.

```
+-----+
Functions (use scroll/page keys to see more)

testfunc -
APPGENER - Application Generator
ARTEST   - Form Processor Test Application
EXIT     - Exit from IISS
FDFE     - Form Editor
FLAN     - Forms Language Compiler
HELP     - Function Screen Help
MM        - Message Management
PASSWORD - Change Password Utility
SYSGEN   - User Interface System Generation Utility
TE        - Text Editor

MSG:  0                                     applcation
+-----+
```

Figure 5-20 Defining a Function

This displays the function definition screen.

Function Description TESTFUNC		
Parameter Form	AP Name	AP Type <u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
MSG: <u>0</u>		application

Figure 5-21 Function Definition Screen

The new function is defined by filling in the screen and pressing <ENTER>.

Function Description TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type <u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
MSG: <u>1</u> Function inserted		application

Figure 5-22 Filled-in Function Definition Screen

Roles are authorized by filling in the appropriate field and pressing <ENTER>.

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
<u>testrole1</u>		
MSG: <u>1</u> Function inserted		application

Figure 5-23 Authorizing Roles (1 of 4)

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
<u>testrole2</u>		
<u>TESTROLE1</u> (Inserted)		
MSG: <u>0</u>		application

Figure 5-24 Authorizing Roles (2 of 4)

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
<u>testrole3</u>		
TESTROLE1 (Inserted)		
TESTROLE2 (Inserted)		
MSG: <u>0</u>		application

Figure 5-25 Authorizing Roles (3 of 4)

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
<u>TESTROLE1</u> (Inserted)		
TESTROLE2 (Inserted)		
TESTROLE3 (Inserted)		
MSG: <u>0</u>		application

Figure 5-26 Authorizing Roles (4 of 4)

Moving the cursor out of the authorized roles area and pressing <PF6> displays a list of all roles, verifying the addition of the test roles.

```
+-----+
| Roles (use scroll/page keys to see more) |
|                                           |
| * (No users)                             |
| MANAGER (No functions)                   |
| SYSMGR                                     |
| TESTROLE1                               |
| TESTROLE2                               |
| TESTROLE3                               |
|                                           |
| MSG:  0                                  application |
+-----+
```

Figure 5-27 List of Roles

Moving the cursor out of the role listing and pressing <PF5> displays the list of users, verifying the addition of the test user.

```
+-----+
| Users (use scroll/page keys to see more) |
|                                           |
| MORENC - Test User                       |
| SYSMGR  - System Manager                 |
| TESTUSER - unit test plan test user     |
|                                           |
| MSG:  0                                  application |
+-----+
```

Figure 5-28 List of Users

Placing the cursor on TESTUSER and pressing <PF5> verifies the definition of the selected user.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1		
TESTROLE2		
TESTROLE3		
MSG: 0		applcation

Figure 5-29 TESTUSER Definition Screen

Placing the cursor on TESTROLE3 and pressing <PF12> deletes the selected role.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1		
TESTROLE2		
TESTROLE3 (Deleted)		
MSG: 0		applcation

Figure 5-30 Deleting a User Role

Moving the cursor out of the roles and pressing <PF7> displays the list of functions, verifying the addition of the test function.

Functions (use scroll/page keys to see more)		
APPGENER	-	Application Generator
ARTEST	-	Form Processor Test Application
EXIT	-	Exit from IISS
FDFE	-	Form Editor
FLAN	-	Forms Language Compiler
HELP	-	Function Screen Help
MM	-	Message Management
PASSWORD	-	Change Password Utility
SYSGEN	-	User Interface System Generation Utility
TE	-	Text Editor
TESTFUNC	-	unit test plan test function
MSG: 0		applcation

Figure 5-31 List of Functions

Placing the cursor on the TESTFUNC entry and pressing <PF7> verifies the definition of the selected function.

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		R
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1		
TESTROLE2		
TESTROLE3		
MSG: 0		applcation

Figure 5-32 TESTFUNC Definition Screen

Placing the cursor on TESTROLE3 and pressing <PF12> deletes the selected role.

Function Description		
TESTFUNC <u>unit test plan test function</u>		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
<u>TESTROLE1</u>		
TESTROLE2		
TESTROLE3 (Deleted)		
MSG: <u>0</u>		application

Figure 5-33 Deleting a Function Role

Moving the cursor out of the authorized roles area and pressing <PF5> again displays the list of users.

Users (use scroll/page keys to see more)	
<u>MORENC</u>	- Test User
SYSMGR	- System Manager
TESTUSER	- unit test plan test user
MSG: <u>0</u>	
application	

Figure 5-34 List of Users

Moving the cursor to TESTUSER and pressing <PF5> displays the definition screen, verifying the deletion of the test role.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1		
TESTROLE2		
MSG: 0		application

Figure 5-35 TESTUSER Definition Screen

Pressing <PF12> deletes the user and all roles.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1 (Deleted)		
TESTROLE2 (Deleted)		
MSG: 1 user deleted		application

Figure 5-36 Deleting a User

Pressing <ENTER> undoes the delete.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1	(Inserted)	
TESTROLE2	(Inserted)	
MSG: <u>1</u> user inserted		application

Figure 5-37 Undeleting a User

Pressing <PF7> again displays the list of functions.

Functions (use scroll/page keys to see more)	
APPGENER	- Application Generator
ARTEST	- Form Processor Test Application
EXIT	- Exit from IISS
FDFE	- Form Editor
FLAN	- Forms Language Compiler
HELP	- Function Screen Help
MM	- Message Management
PASSWORD	- Change Password Utility
SYSGEN	- User Interface System Generation Utility
TE	- Text Editor
TESTFUNC	- unit test plan test function
MSG: <u>0</u>	
application	

Figure 5-38 List of Functions

Placing the cursor on TESTFUNC and pressing <PF7> displays the definition screen, verifying the deletion of the test role.

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1		
TESTROLE2		
MSG: <u>0</u>		application

Figure 5-39 TESTFUNC Definition Screen

Pressing <PF12> deletes the function and all authorized roles.

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1 (Deleted)		
TESTROLE2 (Deleted)		
MSG: <u>1</u> Function deleted		application

Figure 5-40 Deleting a Function

Pressing <ENTER> undoes the deletion.

Function Description		
TESTFUNC unit test plan test function		
Parameter Form	AP Name	AP Type
		<u>R</u>
AP Message (scroll for more)		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1 (Inserted)		
TESTROLE2 (Inserted)		
MSG: <u>1</u> Function inserted		application

Figure 5-41 Undeleting a Function

Pressing <PF5> displays the list of users.

Users (use scroll/page keys to see more)	
MORENC	- Test User
SYSMGR	- System Manager
TESTUSER	- unit test plan test user
MSG: <u>0</u>	
application	

Figure 5-42 List of Users

Placing the cursor on TESTUSER and pressing <PF5> displays the definition screen, verifying that the deletion was undone.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1		
TESTROLE2		
MSG: _0		application

Figure 5-43 TESTUSER Definition Screen

Pressing <PF12> deletes the user.

User ID	User Name	Password Verification
TESTUSER	unit test plan test user	
User Form File Template		
User Source File Template		
Authorized Roles (use scroll/page keys to see more)		
TESTROLE1 (Deleted)		
TESTROLE2 (Deleted)		
MSG: _1 User Deleted		application

Figure 5-44 Deleting a User

Pressing <PF7> displays the list of functions.

```
+-----+
| Functions (use scroll/page keys to see more) |
|-----|
| APPGENER - Application Generator             |
| ARTEST   - Form Processor Test Application  |
| EXIT     - Exit from IISS                   |
| FDFE     - Form Editor                     |
| FLAN     - Forms Language Compiler          |
| HELP     - Function Screen Help             |
| MM       - Message Management               |
| PASSWORD - Change Password Utility          |
| SYSGEN   - User Interface System Generation Utility |
| TE       - Text Editor                     |
| TESTFUNC - unit test plan test function     |
| MSG:  _0                                     |
|-----+-----+ application
```

Figure 5-45 List of Functions

Placing the cursor on TESTFUNC and pressing <PF7> displays the definition screen, verifying that the deletion was undone.

```
+-----+
| Function Description |
| TESTFUNC unit test plan test function |
|-----|
| Parameter Form      AP Name      AP Type |
|                     |             | R    |
|-----|
| AP Message (scroll for more) |
|-----|
|-----|
| Authorized Roles (use scroll/page keys to see more) |
|-----|
| TESTROLE1 |
| TESTROLE2 |
| MSG:  _0                                     |
|-----+-----+ application
```

Figure 5-46 TESTFUNC Definition Screen

Pressing <PF12> deletes the function.

30 September 1990

Function Description

TESTFUNC unit test plan test function

Parameter Form

AP Name

AP Type

R

AP Message (scroll for more)

Authorized Roles (use scroll/page keys to see more)

TESTROLE1 (Deleted)

TESTROLE2 (Deleted)

MSG: 1 Function deleted

application

Figure 5-47 Deleting a Function

Pressing <PF5> displays the list of users, verifying that the test user was deleted.

Users (use scroll/page keys to see more)

MORENC

—

- Test User

SYSMGR

- System Manager

MSG: 0

application

Figure 5-48 List of Users

Moving the cursor out of the list of users and pressing <PF6> displays the list of roles verifying that the test roles have been deleted.

```
+-----+
Roles (use scroll/page keys to see more)

*_____ (No users)
MANAGER   (No functions)
SYSMGR

MSG:  _0                                     application
+-----+
```

Figure 5-49 List of Roles

Moving the cursor out of the list of roles and pressing <PF7> displays the list of functions, verifying that the test function was deleted.

```
+-----+
Functions (use scroll/page keys to see more)

APPGENER - Application Generator
ARTEST   - Form Processor Test Application
EXIT     - Exit from IISS
FD FE    - Form Editor
FLAN     - Forms Language Compiler
HELP     - Function Screen Help
MM        - Message Management
PASSWORD - Change Password Utility
SYSGEN   - User Interface System Generation Utility
TE        - Text Editor

MSG:  _0                                     application
+-----+
```

Figure 5-50 List of Functions

Pressing <QUIT> returns to the first screen.

User Interface System Generation Utility

Display Selection Keys

Data Manipulation Keys

```
<PF5> - Display User Information  <ENTER> - Insert / Update
<PF6> - Display Role Information  <PF12>  - Delete
<PF7> - Display Function Information
<QUIT> - Return to this screen / Exit
```

MSG: 0

application

Figure 5-51 SYSGEN Initial Screen

Pressing <QUIT> again returns to the IISS Function Screen.

I I S S T E S T B E D V E R S I O N 2.3

Date:12/21/86 Time: 9:15:21 User ID:SYSMGR Role:SYSMGR

Function:_____ Device Type:_____ Device Name:_____

MSG: 1 Application SDSYSGENZZ has terminated applcation

Figure 5-52 IISS Function Screen

5.3.6 Change Password

Entering the function "PASSWORD" invokes the Change Password utility, displaying the following screen.

I I S S T E S T B E D V E R S I O N 2.3		
Date:12/21/86 Time: 9:15:21 User ID:SYSMGR Role:SYSMGR		
Function:password Device Type:_____ Device Name:_____		
Old Password _____	New Password _____	Verification _____
MSG: <u> 0 </u> _____ application		

Figure 5-53 PASSWORD Screen

Entering an invalid old password verifies that an error message is displayed. (Note that none of the password fields are actually displayed on the screen.)

I I S S T E S T B E D V E R S I O N 2.3		
Date:12/21/86 Time: 9:15:21 User ID:SYSMGR Role:SYSMGR		
Function:password Device Type:_____ Device Name:_____		
Old Password X _____	New Password Y _____	Verification Z _____
MSG: <u> 1 </u> Old password not valid _____ application		

Figure 5-54 Invalid Old Password

Correcting the old password verifies that an error message indicates that the new password does not match the verification.


```
+-----+
| I I S S   T E S T   B E D   V E R S I O N   2.3 |
+-----+
| Date:12/21/86   Time: 9:15:21   User ID:SYSMGR   Role:SYSMGR |
| Function:password Device Type:_____ Device Name:_____ |
| Old Password      New Password      Verification |
| SYSMGR            Y                  Z |
|
| MSG:  _1  New password does not match verification  applmation |
+-----+
```

Figure 5-55 New Password / Verification Mismatch

When the new password and verification match, the password is changed.

```
+-----+
| I I S S   T E S T   B E D   V E R S I O N   2.3 |
+-----+
| Date:12/21/86   Time: 9:15:21   User ID:SYSMGR   Role:SYSMGR |
| Function:password Device Type:_____ Device Name:_____ |
| Old Password      New Password      Verification |
| SYSMGR            SYSMGR            SYSMGR |
|
| MSG:  _1  New password does not match verification  applmation |
+-----+
```

Figure 5-56 Correct PASSWORD Screen Prior to <ENTER>

I I S S T E S T B E D V E R S I O N 2.3		
Date:12/21/86 Time: 9:15:21 User ID:SYSMGR Role:SYSMGR		
Function:_____ Device Type:_____ Device Name:_____		
MSG: <u>1</u> Password changed _____ application		

Figure 5-57 Password Successfully Changed

5.3.7 Message Management

Entering the function "MM" invokes the Message Management Utility, displaying the following screen.

Error Message Definition Screen		

Message Base Number: _____		
Number	Msg Name	Description
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
Msg: <u>0</u> _____ application		

Figure 5-58 Message Definition Screen

This is the form you see after entering a message number for which no messages had previously been defined.

```
+-----+
|                                     |
|               Error Message Definition Screen               |
|               -----               |
| Message Base Number: 850         |
| Number  Msg Name  Description   |
| 85000   _____             |
| 85001   _____             |
| 85002   _____             |
| 85003   _____             |
| 85004   _____             |
| 85005   _____             |
| 85006   _____             |
| 85007   _____             |
| 85008   _____             |
| 85009   _____             |
| Msg:  _0                                     application    |
+-----+
```

Figure 5-59 Define New Messages

Enter the message names and descriptions, then press <ENTER>. A message is returned on the message line indicating the successful completion of message definition.

```
+-----+
|                                     |
|               Error Message Definition Screen               |
|               -----               |
| Message Base Number: 850         |
| Number  Msg Name  Description   |
| 85000   INVPOS    INVALID POSITION |
| 85001   IMPSEQ    IMPROPER SEQUENCE |
| 85002   SYNERR    SYNTAX ERROR    |
| 85003   NVALCOM   NOT A VALID COMMAND |
| 85004   DUPFLD    DUPLICATE FIELD ENTRY |
| 85005   _____             |
| 85006   _____             |
| 85007   _____             |
| 85008   _____             |
| 85009   _____             |
| Msg:  _1 Changes saved                                     application    |
+-----+
```

Figure 5-60 Entry of New Messages

Enter another base number and press <ENTER>.

```
-----
                        Error Message Definition Screen
                        -----
Message Base Number: 123

Number   Msg Name   Description
12300    _____
12301    _____
12302    _____
12303    _____
12304    _____
12305    _____
12306    _____
12307    _____
12308    _____
12309    _____
Msg: 0                                     application
-----
```

Figure 5-61 Reviewing Other Messages

To retrieve the messages currently defined for the message base "850", enter it in the message base number and press <ENTER>.

```
-----
                        Error Message Definition Screen
                        -----
Message Base Number: 850

Number   Msg Name   Description
85000    INVPOS     INVALID POSITION
85001    IMPSEQ     IMPROPER SEQUENCE
85002    SYNERR     SYNTAX ERROR
85003    NVALCOM    NOT A VALID COMMAND
85004    DUPFLD     DUPLICATE FIELD ENTRY
85005    _____
85006    _____
85007    _____
85008    _____
85009    _____
Msg: 0                                     application
-----
```

Figure 5-62 Retrieving Messages

To test updating, add a new error message and change the message description for DUPFLD and press <ENTER>.

```
+-----+
                        Error Message Definition Screen
                        -----+-----+
Message Base Number: 850

Number  Msg Name  Description
85000   INVPOS   INVALID POSITION
85001   IMPSEQ   IMPROPER SEQUENCE
85002   SYNERR   SYNTAX ERROR
85003   NVALCOM  NOT A VALID COMMAND
85004   DUPFLD   DUPLICATE FIELD ENTRY, TRY AGAIN
85005   INVROW   INVALID ROW
85006   _____
85007   _____
85008   _____
85009   _____
Msg: 1 Changes saved                                application
+-----+
```

Figure 5-63 Updating Messages

Enter another base number and press <ENTER>.

```
+-----+
                        Error Message Definition Screen
                        -----+-----+
Message Base Number: 123

Number  Msg Name  Description
12300   _____
12301   _____
12302   _____
12303   _____
12304   _____
12305   _____
12306   _____
12307   _____
12308   _____
12309   _____
Msg: 0                                application
+-----+
```

Figure 5-64 Reviewing Other Messages

Enter "850" as a base number and press <ENTER> to verify that the updates were saved.

Error Message Definition Screen		
Message Base Number: <u>850</u>		
Number	Msg Name	Description
85000	INVPOS	INVALID POSITION
85001	IMPSEQ	IMPROPER SEQUENCE
85002	SYNERR	SYNTAX ERROR
85003	NVALCOM	NOT A VALID COMMAND
85004	DUPFLD	DUPLICATE FIELD ENTRY, TRY AGAIN
85005	INVROW	INVALID ROW
85006		
85007		
85008		
85009		
Msg: <u>0</u>		application

Figure 5-65 Updated Messages

Return to the IISS Function Screen by pressing <QUIT>.
Press <QUIT> again to exit from IISS, completing the unit test
of the UIS configuration item.